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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,892	11/27/2002	John Frederick Schenck	RD-29597	5293

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
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NISKAYUNA, NY 12309

EXAMINER

HORWAT, JENNIFER A

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/065,892	Applicant(s) SCHENCK ET AL.	
	Examiner Jennifer Horwat	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/9/02 9/20/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on 12/9/2002 and 9/20/2004 are in compliance with 37 CFR 1.97-1.98 and all references therein have been considered.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 6, 7, 11, 12, 15, 16, 19, 20, and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, 7, 9, 10, 11, and 14 of copending Application No. 10/617543 (hereafter referenced as the '543 application). Although the conflicting claims are not identical,

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they are not patentably distinct from each other because the '543 application claims a method and a system for using MRI to image brain iron deposits using a substantially high magnetic field strength including monitoring disease progression and response to therapy. Although the '543 does not explicitly claim volumetric measurements, a three dimensional phase image of the brain is created. An image processor, as claimed in the '543 application claim 9 for detecting iron deposits serves as the computer analysis.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 7, 9-14, 18, 20, 21, 23, 28, 29, and 32-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartzokis, et al (US 5322682). Bartzokis discloses a magnetic resonance device and method used to measure iron stores in tissue (col 1, lines 8-10) to aid in detection of disease. The method and system are used in diagnosis, prognosis, and monitoring treatment. The iron stores at each point within a region are quantified in the tissue based on the concentration of iron stores (col 4, lines 31-36). MR images are acquired at a substantially high magnetic field strength of 1.5 Tesla and are T2- weighted (col 2, line 2) with substantially thin slices of 3mm (col

9, line 7). Bartzokis additionally discloses that "other sequences could be used, such as gradient echo sequences that quantify T2*" (col 9, lines 8-10) and that any sequence that included a T2 influence could be used. Dual spin-echo sequences were used to produce gray scale encoded T2 maps (col 9, lines 19-20 and figure 1). Enhancement of the image is done by computer-aided analysis using T2 measurements as well as magnification and datagraphic corrections (col 6, lines 46-68), which allow T2 measurements to be derived from gray matter. Data is obtained from multiple subjects and analyzed to provide clinical population data which provides data for comparison of various regions of interest, such as white matter, caudate, putamen, and g. pallidus, as shown in figure 3.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5, 15-17, 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartzokis in view of Sibbitt, et al (US 6385479). Bartzokis, as discussed above, substantially discloses the invention as claimed, however fails to disclose the use of volumetric measurements. Sibbitt also discloses a method and system for determining central nervous system disease or injury using T2 measurements that are acquired at high magnetic field strengths (col 4, lines 46-60).

Digital information may be displayed as either two dimensional or three dimensional images (col 4, lines 65-67). Segmentation is used to analyze the brain (col 3, lines 30-33) to provide precise measures of T2 that are used to diagnose disease and disease activity (col 7, lines 38-40). MR data may be proton density weighted or T2 weighted (col 5, lines 1-5) to provide images. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the disclosure of Bartzokis with the teachings of the reference by Sibbitt in order to provide three dimensional volumetric images which may be analyzed by segmentation, as viewing the data in three dimensions provides additional diagnostic information which may be beneficial for use in monitoring a progressive disease.

8. Claims 6, 8, 19, 22, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartzokis. Bartzokis, as discussed above, substantially discloses the invention as claimed, however fails to explicitly disclose using the system to monitor Huntington's disease and Hallervorden Spatz disease. However, Bartzokis does disclose use for "various neurological disorders such as Alzheimer's and Parkinson's disease" (col 1, lines 22-23). It would be an obvious modification to one of ordinary skill in the art to include both Huntington's disease and Hallervorden Spatz disease, as they are both degenerative brain disorders, wherein Hallervorden Spatz disease also includes brain iron accumulation. Additionally, Bartzokis fails to disclose use of slice thickness of 1.5mm or less, however does explicitly disclose use of thin slices of 3mm. It would be an obvious modification to one of ordinary skill in the art to reduce the slice thickness in order to provide more data for analysis, as previously discussed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Horwat whose telephone number is (571) 272-2811. The examiner can normally be reached on M-Th 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jah
3/15/2006


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